



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/694,568	10/23/2000	Christopher F. Artig	14374.34	9789

22913 7590 11/06/2002

WORKMAN NYDEGGER & SEELEY  
1000 EAGLE GATE TOWER  
60 EAST SOUTH TEMPLE  
SALT LAKE CITY, UT 84111

EXAMINER

DUNN, DREW A

ART UNIT PAPER NUMBER

2882

DATE MAILED: 11/06/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.  
09/694,568

Applicant(s)  
Artig et al.

Examiner  
Drew A. Dunn

Art Unit  
2882



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE three MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 13 Sep 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-18 and 25-40 is/are pending in the application.
- 4a) Of the above, claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-18 and 25-40 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claims \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some\* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). 6 6) ☐ Other:



Paper No. 9

Application Number: 09/964,568

Filing Date: 10/23/00

Applicant(s): Artig et al.

### **DETAILED ACTION**

#### ***Claim Rejections - 35 U.S.C. § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-18 and 25-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Widlicka et al. (U.S. Pat. No. 5,604,784) in view of Kurtz (U.S. Pat. No. 2,986,533).

Art Unit: 2882

With regards to claims 1, 2, 4, 6, 8, 10, 11, 13 and 18, Widlicka discloses a radiation shield coating for an X-ray tube (having a rotating anode and cathode disclosed in a vacuum) wherein “granulated bismuth” is mixed with a liquid carrier and applied to the surface of the tube in a thickness sufficient to provide a desired amount of radiation attenuation. (See abstract, column 3, lines 24+, and figures 1 and 2). However, Widlicka fails to teach a first and “second” powder metal. Kurtz discloses the use of “granulated tungsten powder” combined with an aqueous solution of lead, tin, copper and nickel to form a radiation attenuating material. (See column 2, lines 3-14). Though Kurtz fails to specifically disclose a “second” powder, it is well known in the art and would have been obvious to an artisan to realize that the solution of lead, tin, copper and nickel can be formed from metal powders. As such and in light of the teachings of Kurtz, and based on the well known combination of metallic components for forming shielding in an X-ray system, it would have been obvious to an artisan to modify Widlicka to include a first and second powder metal to form the coating since the addition of other metal powders allows for a more accurate attenuation factor to be achieved in limiting X-rays from the X-ray tube.

With regards to claims 3, 5, 7 and 9, absent any showing of criticality, the choice of concentrations would have been obvious to one of ordinary skill depending upon the predetermined amount of radiation attenuation desired. Specifically, each component has intrinsic properties and the adjustment and the determination of concentrations would have been to one of ordinary skill based on an obvious trial and error.

With regards to claim 12, the use of adhesion on an X-ray tube is old and well known as one means to connect or attach a structure (i.e. shielding) to said tube.

Art Unit: 2882

With regards to claim 14, having a region containing a dielectric polymer material that is oriented so as to electrically insulate at least a portion of a high voltage electrical connection is old and well known in the X-ray tube art. Official notice is taken.

With regards to claims 15-17, the use of fins for heat displacement is well known in the X-ray tube art and would have been an obvious modification to any rotating anode X-ray tube. Official notice is taken.

It is again noted that claims 19-24 have been cancelled.

With regards to the newly added claims 25-28, each dependent from claim 13, the prior art reference of Kurtz discloses the various combinations of the well known components of lead, tin, copper and nickel and that the first powder of tungsten is the supporting matrix for the second powder component.

With regards to the newly added claims 29-40, these claims are rejected for the reasons set forth above. Specifically, the combination of Widlicka et al. and Kurtz suggests to one of ordinary skill in the art the combination of at least two metal powders that have X-ray attenuating properties to be used in an X-ray tube. Further, though the two reference fail to specifically disclose the use of chromium as a third metal powder, absent any showing of criticality, the choice of using this well known metal as a substitution for any of the other functionally equivalent metal powders taught would have been an obvious choice of design.

Art Unit: 2882

### ***Response to Arguments***

Applicant's arguments filed September 13, 2002 have been fully considered and are considered persuasive with regards to the rejection and art at hand. Specifically, Applicant argues that the amended claims reciting a first powder metal and a second powder metal are not suggested by the '532 reference. The Examiner agrees with this statement but in light of the amendment, a new grounds of rejection has been made above.

### ***Conclusion***

Though the rest of the art made of record has not been applied, it has been cited as being related to applicant's invention. Specifically, both U.S. Pat. No. 6,153,666 to Lagace and U.S. Pat. No. 4,090,103 to Machenschalk et al. claim metal powders that attenuate X-rays. (See claims 8 respectively) U.S. Pat. No. 4,619,963 to Shoji et al. discloses X-ray shielding which can incorporate powder of lead metal. (See column 3, lines 39+). U.S. Pat. No. 6,045,601 to Tan discloses the use of a tungsten-nickel-iron alloy in radiation shielding. (See column 1, lines 33+). U.S. Pat. No. 4,686,417 to Noji discloses lead powder shielding. (See column 4, lines 13+).

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after

Art Unit: 2882

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

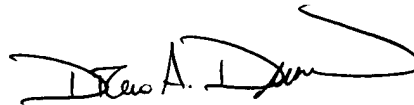
Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Drew A. Dunn** whose telephone number is (703) 305-0024. The examiner can normally be reached between the hours of 8:00 AM to 3:00 PM Monday thru Thursday and every other Friday (second Friday of the bi-week).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert H. Kim, can be reached on (703) 305-3492. The fax phone number for this Group is (703) 308-7722 or (703)308-7724.

Communications via Internet e-mail regarding this application, other than those under 35 U.S.C. 132 or which otherwise require a signature, may be used by the applicant and should be addressed to [**drew.dunn@uspto.gov**].

All Internet e-mail communications will be made of record in the application file. PTO employees do not engage in Internet communications where there exists a possibility that sensitive information could be identified or exchanged unless the record includes a properly signed express waiver of the confidentiality requirements of 35 U.S.C. 122. This is more clearly set forth in the Interim Internet Usage Policy published in the Official Gazette of the Patent and Trademark on February 25, 1997 at 1195 OG 89.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0956.



Drew A. Dunn  
Primary Examiner Art Unit 2882  
31 October 2002